



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,000	09/30/2003	Yingjie Lin	DP-310335	5263
22851	7590	02/23/2005	EXAMINER	
DELPHI TECHNOLOGIES, INC.			FRANK, RODNEY T	
M/C 480-410-202			ART UNIT	PAPER NUMBER
PO BOX 5052				
TROY, MI 48007			2856	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/675,000	LIN, YINGJIE
	Examiner Rodney T. Frank	Art Unit 2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-5 and 8-20 is/are rejected.
- 7) Claim(s) 6 and 7 is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>9/30/03</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Lin et al. (U.S. Patent Number 6,725,707; hereinafter referred to as Lin).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Lin discloses a device for determining the viscosity of a liquid has a temperature sensor and a heater disposed in spaced relation within a channel. When the device is immersed in a liquid, the heater heats the liquid and the temperature sensor detects the change in temperature of the liquid in response to heating of the liquid by the heater. A controller coupled with the temperature sensor receives a signal corresponding to the liquid and determines an index value corresponding to the change in temperature with respect to time. The index value may be

compared with a stored value to evaluate the relative change in viscosity, or it may be used to determine an actual value of viscosity of the liquid (Please see the abstract).

In reference to method claims 15-18, the method for measuring viscosity, as claimed, is disclosed by Lin. Lin discloses the claimed method in view of column 5 lines 22-47 and column 6 lines 42-47. All of the necessary limitations of the method for measuring viscosity are disclosed by the Lin reference.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 8, 9-14, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilson et al. (U.S. Patent Number 6,810,718; hereinafter referred to as Wilson.)
Wilson discloses that the present invention is an apparatus and method for analyzing a fluid used in a machine or in an industrial process line. The apparatus has at least one meter placed proximate the machine or process line and in contact with the machine or process fluid for measuring at least one parameter related to the fluid. The at least one parameter is a standard laboratory analysis parameter. The at least one meter includes but is not limited to viscometer, element meter, optical meter, particulate meter, and combinations thereof (Please see the abstract).

5. In reference to claim 1, Wilson discloses and illustrates in figure 1 a fluid flow channel (208) and a heating element. The heating element (204) is arranged adjacent the outside of a main reservoir (202), however, as can best be determined, this main reservoir is also viewed

as a part of the overall fluid channel, so therefore this claim limitation appears to be met though not explicitly disclosed. Further, Wilson discloses the heating element proximate to an inlet end (210) and a temperature sensor (216) disposed within the fluid flow channel downstream from the heating element, whereby the arrangement of the heating element relative to the fluid flow reduces possible turbulence formation, since the heater is not in the fluid flow.

In reference to claims 2 and 9, though a thermally insulating jacket is not specifically disclosed, column 7 lines 55-57 disclose that the viscometer is preferably insulated to improve temperature stability. The use of an insulating jacket is a well-established insulating means within the art, and therefore this limitation is deemed as obvious in view of the need for insulating the viscometer.

In reference to claim 3, though the exact measurements of the flow channel are not specifically disclosed, the size of the tube in Wilson is disclosed and the examiner feels that to manufacture a tube of different dimension would be obvious to one of ordinary skill in the art. One would be motivated to change the dimensions of the tube based upon providing an optimum operation of the device.

In reference to claims 4 and 10, though the device disclosed in Wilson does not explicitly disclose a constant inner diameter, viscometers utilizing a constant inner diameter are well known within the art, and though not disclosed by Wilson, the use of such a device is considered to one of ordinary skill in the art at the time of the invention since there is no disclosed advantage or improvement from the constant inner diameter, nor is there any unexpected result stemming from the constant diameter channel.

In reference to claim 8, a tubular flow guide for receiving oil at an inlet and discharging the oil at an outlet, and a heating element. The exact placement of the heater is discussed

earlier in detail, in that it is not specifically around the outside of the flow channel, but a portion that is still part of the flow channel, which would therefore still disclose a heater around an exterior of the tubular flow guide proximate an inlet end for heating oil, and a temperature sensor disposed within the fluid flow guide proximate an outlet end for measuring oil temperature proximate the sensor.

In reference to claims 5 and 11, though the exact position relationship between the heater and the temperature sensor are not specifically disclosed, the examiner feels that to place components at specific distances in a device would be obvious to one of ordinary skill in the art. One would be motivated to change the positions of the heater and temperature sensor based upon providing an optimum operation of the device.

In reference to claim 12, column 7 lines 9-12 disclose that the temperature of the liquid is controlled, so therefore there must be a controller to control temperature, even though one is not specifically disclosed.

In reference to claims 13 and 14, though the use of memory and look-up tables are not explicitly disclosed in the Wilson reference, the use of such tables and utilizing memory in order to get a more accurate result of measurement is well established in the art and in order to obtain a more accurate measurement, the use of such would be an obvious modification to one of ordinary skill in the art.

In reference to claims 19 and 20, it is disclosed that the device can be used in a machine, which a vehicle is a machine. Therefore, since the device is used with oil, then its use with a lubricated part of a vehicle (i.e. the engine) would be obvious to one of ordinary skill in the art.

Allowable Subject Matter

Art Unit: 2856

Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The examiner has cited various references deemed pertinent to the general state of the art of the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney T. Frank whose telephone number is (571) 272-2193. The examiner can normally be reached on M-F 9-5:30 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RTF
February 17, 2005


HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800